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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/645,065

08/21/2003

Kenichi Yokouchi

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EXAMINER

MACARTHUR, SYLVIA

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

11/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/645,065	Applicant(s) YOKOUCHI ET AL.	
	Examiner Sylvia R. MacArthur	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/28/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,9,10,12-30 and 62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9,10,12-30 and 62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 306,9,10, 12-30, and 62 have been considered but are moot in view of the new ground(s) of rejection. The amendment of claim 1 reciting that the annular member is disposed vertically above the substrate holding mechanism and the annular member includes a substantially horizontal plane portion necessitates a re-evaluation of the prior art of Okuya (JP 2002—075953) wherein the annular member is interpreted as the combination of elements 2 and 60 wherein 60 includes members 61-63.

Claim Rejections - 35 USC § 102

2. Claims 1, 3-6, 9, 10,12-30, and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Okuya (JP 2002-75953), as presented in the IDS mailed 2/6/2007).

Okuya teaches a substrate processor and substrate processing method.

Regarding claim 1: A substrate processing apparatus that removes an unwanted material on a surface of a peripheral portion of a substrate through etching by supplying etching liquid to the surface of the peripheral portion, the apparatus comprising:
an etching liquid supplying mechanism (nozzles 41,42) that supplies the etching liquid to the peripheral portion of the substrate; and an annular member (interpreted as the combination of 2 and 60 which includes 61-63) that has an inner periphery on or inside an outer periphery of the substrate and thereby defines a processing width to be processed by the etching liquid on the surface of the peripheral portion of the substrate, see Fig.1. The substrate processing apparatus according to claim 1 wherein: the annular member portion 62 is placed in close proximity to the

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surface of the peripheral portion of the substrate while securing a certain gap such that allows the annular member to come in contact with a liquid film of the etching liquid formed on the surface of the peripheral portion, see Fig. 1 of Okuya. It is further noted that the gap has been claimed relative to the substrate which is not part of the apparatus and thus the limitation is interpreted as a matter of an intended use. The annular member of Okuya that is shaped as a continuous ring in that encircles the wafer without disruption in structure from another member.

Regarding claim 3: The substrate processing apparatus according to Claim 1 further comprising: substrate holding mechanism (work holder 1) that holds the substrate from one surface side thereof, wherein the portion of the annular member 62 is placed on the other surface side of the substrate.

Regarding claim 4: The substrate processing apparatus according to Claim 1, wherein: the etching liquid is supplied to the peripheral portion of the substrate from the etching liquid supplying mechanism while the substrate is held rest. The apparatus of Okuya is inherently capable of supplying etching liquid while the substrate is not rotating. This is also seen as a process limitation and is not given patentable weight.

Regarding claim 5: The substrate processing apparatus according to Claim 1, wherein the substrate W is a substrate of a nearly circular shape; the apparatus further comprises a substrate rotating mechanism that rotates the substrate; and the inner periphery of the annular member is of a circular shape having an inside diameter equal to smaller than a diameter of the substrate. See Fig. 1 of Okuya.

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Regarding claim 6: The substrate processing apparatus according to Claim 5, wherein: the etching liquid is supplied to the peripheral portion of the substrate from the etching liquid supplying mechanism while the substrate rotated by the substrate rotating.

Regarding claims 9, 12, and 24 see the incline shapes in Figs. 1 and 3.

Regarding claim 10: Note that the substrate is not part of the apparatus and that the limitation is relative to the substrate, this claim is interpreted as a matter of an intended use.

Regarding claims 13-16: see Figs.

Regarding claim 17: Claim 1, wherein: the etching liquid supplying mechanism includes a nozzle (nozzles 12a-d and nozzles 13a-d) that supplies the etching liquid toward a surface of the substrate on an opposite side to a surface containing the surface of the peripheral portion.

Regarding claim 18: The substrate processing the nozzle supplies the etching liquid toward a central portion of the surface on the opposite side, (nozzles 41, 42, and nozzle on end of line 33)

Regarding claim 19: The substrate processing apparatus according claim 1, wherein: the annular member has an outer wall surface positioned inside the outer periphery of the substrate, see Figs.

Regarding claims 20 and 21: See nozzles 41, 42, and the one of line 33.

Regarding claim 22: The substrate processing claim 1, wherein: apparatus according to the etching liquid supplying mechanism includes a dispense port (nozzles are provided to supply fluid from in a direction perpendicular to the direction of the substrate see Fig.1 nozzles through which the etching liquid is dispensed direction perpendicular to a surface of the substrate direction inclined toward an outside of the substrate.

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Regarding claim 23: The substrate processing claim 1, wherein: apparatus according to the annular member (62) includes an inner wall surface that in a direction to go away from rises from the inner periphery surface of the substrate, see Figs.

Regarding claim 25: The substrate processing apparatus according to claim 1, further comprising a lid member (shut off plate 2) that substantially clogs an internal space of the annular member.

Regarding claim 26: See recovery groove 52.

Regarding claims 27-29: The substrate processing apparatus according to claim 1, further comprising: a gas supplying mechanism that supplies an internal space the annular member with a fluid, see Fig. 1 and the type of fluid provided is interpreted as a matter of an intended use.

Regarding claim 30: The substrate processing apparatus according to claim 1 further comprising: a protection liquid etching protection liquid (nozzle 41) provided water) toward a center of the substrate an inner side of the annular member, supplying mechanism that supplies etching protection liquid toward a center a center of the substrate at an inner side of the annular member, see Fig. 1.

Regarding claims 10, 62: The inner periphery is disposed inside the outer periphery of the substrate see the location of a portion of an annular member 62 relative to the substrate W. Herein the term "associated with" is interpreted as "is near the periphery".

Conclusion

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3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-Th during the hours of 8 a.m. and 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 4, 2009

/Sylvia R MacArthur/
Primary Examiner, Art Unit 1792